

What is claimed is:

1. An inflator comprising:

a bottle for storing a high pressure gas having an opening,
a sealing plate attached to the bottle for sealing the
5 opening,

a housing having a curved air passage therein, and an end,
said housing being arranged such that the end faces the sealing
plate,

an initiator for generating an air blast disposed to
10 communicate with the air passage, and

a piston provided inside the housing to communicate with the
curved air passage so that upon actuation of the initiator, the
piston is urged toward the sealing plate by the air blast to
rupture the same to allow the high pressure gas to linearly eject
15 from the bottle.

2. An inflator according to claim 1, wherein said end of the
housing has a size smaller than that of the opening to form a
space therearound to substantially linearly eject the high
20 pressure gas through the opening.

3. An inflator according to claim 2, further comprising a barrel
attached to the housing and facing the sealing plate, said piston
being located in the barrel.

4. An inflator according to claim 3, wherein said barrel contacts
the sealing plate to support the same.

1004-1763-011002

5. An inflator according to claim 4, further comprising a diffuser connected to the bottle for providing a passage of the high pressure gas ejected from the bottle.

5

6. An inflator according to claim 1, wherein said piston has a plurality of grooves on an outer surface thereof along a moving direction.

10

7. An inflator according to claim 1, wherein said piston has a shaft portion with a circular hole.

15

8. An inflator according to claim 3, wherein said barrel has a flange contacting the sealing plate, said flange having a plurality of holes to allow the gas in the bottle to pass therethrough.

20

9. An inflator according to claim 3, wherein said barrel has one end with gradually reduced diameter toward the sealing plate, and the other end with gradually increased diameter.

10. An inflator comprising:

a cylindrical bottle for storing a high pressure gas having an opening at one side thereof,

25

a sealing plate attached to the bottle for sealing the opening,

a diffuser connected to the bottle adjacent to the sealing

plate, and having a gas ejecting port at a side opposite to the opening of the bottle and a side surface,

a housing attached to the side surface of the diffuser and having an inner end located in front of the sealing plate,

5 an initiator for generating an air blast disposed in the housing, and

10 a piston provided inside the housing so that upon actuation of the initiator, the piston is urged toward the sealing plate by the air blast to rupture the same to allow the high pressure gas to linearly eject from the bottle.

11. An inflator according to claim 10, further comprising a barrel attached to the housing and facing the sealing plate, said piston being located in the barrel.

2004-1763-011002